

Abstract of the Disclosure

The invention encompasses polypeptides and polynucleotides of three novel bipolar disorder-associated potassium channel polypeptides, KCNQ2-15bx, KCNQ2-15by and KCNQ2-15bz. The invention further relates to the use of potassium channels comprising
5 KCNQ2 subunits for screening for modulators thereof, the use of these modulators for treating mental disorders such as bipolar disorder, schizophrenia and depression, and drugs comprising these modulators. The invention also discloses biallelic markers located in the KCNQ2 gene and their use for diagnosing mental disorders.